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## NOTICE OF ALLOWANCE AND FEE(S) DUE

57246 7590 11/01/2010

BRAKE HUGHES BELLERMANN LLP  
c/o CPA Global  
P.O. Box 52050  
Minneapolis, MN 55402

EXAMINER

KRISHNAN, VIVEK V

ART UNIT

PAPER NUMBER

2433

DATE MAILED: 11/01/2010

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/776,531

02/12/2004

Shrjie Tzeng

0063-127001

4147

TITLE OF INVENTION: SOURCE IDENTIFIER-BASED TRUNKING FOR SYSTEMS OF NETWORK DEVICES

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$300	\$0	\$1810	02/01/2011

**THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.**

**THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.**

### HOW TO REPLY TO THIS NOTICE:

#### I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

**IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.**

# **PART B - FEE(S) TRANSMITTAL**

**Complete and send this form, together with applicable fee(s), to: Mail Mail Stop ISSUE FEE  
Commissioner for Patents  
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INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

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Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

57246 7590 11/01/2010

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Minneapolis, MN 55402

## **Certificate of Mailing or Transmission**

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/776,531 02/12/2004 Shrjie Tzeng 0063-127001 4147

TITLE OF INVENTION: SOURCE IDENTIFIER-BASED TRUNKING FOR SYSTEMS OF NETWORK DEVICES

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$300	\$0	\$1810	02/01/2011

EXAMINER	ART UNIT	CLASS-SUBCLASS
KRISHNAN, VIVEK V	2433	709-236000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

- (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, 1 \_\_\_\_\_
- (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 \_\_\_\_\_
- 3 \_\_\_\_\_

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee
- ☐ Publication Fee (No small entity discount permitted)
- ☐ Advance Order - # of Copies \_\_\_\_\_

4b. Payment of Fee(s); (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
- ☐ Payment by credit card. Form PTO-2038 is attached.
- ☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number \_\_\_\_\_ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature \_\_\_\_\_

Date \_\_\_\_\_

Typed or printed name \_\_\_\_\_

Registration No. \_\_\_\_\_

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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EXAMINER

KRISHNAN, VIVEK V

ART UNIT

PAPER NUMBER

2433

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## Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)

(application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 760 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 760 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/776,531	TZENG, SHRJIE	
	<b>Examiner</b>	<b>Art Unit</b>	
	Vivek Krishnan	2433	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Notice of Appeal filed on September 17, 2010.
2. ☒ The allowed claim(s) is/are 1,6,8-10,16,17,19,20,24-28 and 30.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
  - \* Certified copies not received: \_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_.

**Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |  |  |
|--|--|
| <ol style="list-style-type: none"> <li>1. <input type="checkbox"/> Notice of References Cited (PTO-892)</li> <li>2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)</li> <li>3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br/>Paper No./Mail Date ____</li> <li>4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br/>of Biological Material</li> </ol> | <ol style="list-style-type: none"> <li>5. <input type="checkbox"/> Notice of Informal Patent Application</li> <li>6. <input type="checkbox"/> Interview Summary (PTO-413),<br/>Paper No./Mail Date ____.</li> <li>7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment</li> <li>8. <input type="checkbox"/> Examiner's Statement of Reasons for Allowance</li> <li>9. <input type="checkbox"/> Other ____.</li> </ol> |
|--|--|

/VIVEK SRIVASTAVA/  
Supervisory Patent Examiner, Art Unit 2445

Art Unit: 2445

### **DETAILED ACTION**

Claims 1, 6, 8-10, 16, 17, 19, 20, 24-28, and 30 are allowed.

### **EXAMINER'S AMENDMENT**

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with William G. Hughes (Reg. No. 46,112) on September 29, 2010.

The application has been amended as follows:

Claims:

1. (Currently Amended) A method of handling frames, said method comprising:  
receiving a frame at a first network device of an assembly of network devices divided into a first trunk group on a first side and a second trunk group on a second side, wherein the assembly includes a plurality of high-speed links connecting devices on the first side to corresponding devices on the second side, and wherein the first network device has a first high-speed port connected to a first high-speed link of the plurality of high-speed links and is on the first side and a member of the first trunk group, wherein the assembly of network devices include expansion ports connecting network devices located on a same side to each other;  
determining, using the first network device, whether the frame is destined for a network device of the first trunk group or a second network device of the second trunk group;

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if the frame is destined for the second network device, determining a path for forwarding the frame to the second side, the path being determined based on achieving a minimized forwarding latency for forwarding the frame to the second network device and including the first high-speed port of the first network device; and

if the frame is not destined for one of the network devices of the second trunk group, forwarding the frame from the first network device to a subsequent network device of the first side to which the frame is destined, via an expansion port of the expansion ports.

2. (Cancelled)

3. (Cancelled)

4. (Cancelled)

5. (Cancelled)

6. (Currently Amended) A first network device for handling frames, comprising:

receiving means for receiving a frame at the first network device of an assembly of network devices of a trunk group divided into a first side and a second side, wherein the assembly includes a plurality of high-speed links connecting the first side to the second side, and wherein the first network device is on the first side and includes a first high-speed port connected to a first high-speed link of the plurality of high-speed links, wherein the assembly of network

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devices include expansion ports connecting network devices located on a same side to each other;

determining means for determining whether the frame is destined for a network device of the first side or a second network device of the second side; and

forwarding means for forwarding, if the frame is destined for the second network device of the second side, the frame to the second side using a forwarding path determined based on achieving a minimized forwarding latency for forwarding the frame to the second network device and including the first high-speed port, and

if the frame is not destined for one of the network devices of the second side, forwarding the frame from the first network device to a subsequent network device of the first side to which the frame is destined, via an expansion port of the expansion ports.

7. (Cancelled)

8. (Previously Presented) The first network device as recited in claim 6, wherein the forwarding means comprises means for forwarding, if the frame is destined for the second network device of the second side, the frame via the first high-speed link to a third network device of the second side, and forwarding the frame to the second device of the second side via one or more expansion links connecting the third device to the second device.

9. (Previously Presented) The first network device as recited in claim 6, wherein the forwarding means comprises means for forwarding, if the frame is destined for the second

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network device of the second side, the frame via the first high-speed link to the second network device wherein the first high-speed link is local to both the first network device and the second network device.

10. (Previously Presented) The first network device as recited in claim 6, wherein the forwarding means comprises means for forwarding, if the frame is not destined for one of the network devices of the second side, the frame from the first network device to the network device of the first side to which the frame is destined via one or more expansion links.

11. (Cancelled)

12. (Cancelled)

13. (Cancelled)

14. (Cancelled)

15. (Cancelled)

16. (Previously Presented) The method of claim 1 wherein the receiving comprises:



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receiving the frame at the first network device, and wherein the plurality of links include a plurality of high speed links connecting a Gigabit port on a device of the first side to a Gigabit port on a device of the second side.

17. (Previously Presented) The method of claim 1 wherein the determining comprises:

determining, based on a source chip identifier in a header of the frame, whether the frame is destined for a network device of the first trunk group or the second trunk group.

18. (Cancelled).

19. (Previously Presented) The method of claim 1 wherein if the frame is destined for the second network device, the forwarding comprises:

determining that the first high-speed link is local to the first network device; and

forwarding the frame from the first network device to the second network device via the first high-speed link.

20. (Previously Presented) The method of claim 1 wherein if the frame is not destined for a network device of the second side, the forwarding comprises:

forwarding the frame to the network device of the first side to which the frame is destined via one or more expansion links connecting the first device to the network device of the first side to which the frame is destined.

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21. (Cancelled)

22. (Cancelled).

23. (Cancelled).

24. (Currently Amended) A network device configured to:

receive a frame, the network device being a member of a first trunk group on a first side of an assembly of network devices and including a first high-speed port of a plurality of high-speed ports;

determine ~~[[that]]~~ whether the frame is destined for a first device of the first trunk group on the first side of the assembly, or for a second network device that is a member of a second trunk group on a second side of the assembly, wherein the assembly of network devices include expansion ports connecting network devices located on a same side to each other, and wherein the plurality of high-speed ports connect network devices on different sides, and wherein the high-speed ports have a higher transfer rate than the expansion ports; wherein

~~determine a path to minimize latency in forwarding the frame from the network device to the second network device via a high-speed port of the network device connecting the first side to the second side, and~~

~~forward the frame using the path, to the second network device on the second side of the assembly~~

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if the frame is destined for the second network device of the second side, the network device is configured to forward the frame to the second side using a forwarding path determined based on achieving a minimized forwarding latency for forwarding the frame to the second network device and including a high-speed port connecting the first side to the second side, and

if the frame is not destined for the second network devices of the second side, the network device is configured to forward the frame from the first network device to a subsequent network device of the first side to which the frame is destined, via an expansion port of the expansion ports.

25. (Previously Presented) The network device of claim 24 wherein the high-speed ports are Gigabit ports.

26. (Previously Presented) The network device of claim 24 wherein the network device configured to determine the path is configured to determine how to forward the packet to the second network device based on a physical location of the network device relative to the second network device.

27. (Previously Presented) The network device of claim 24 wherein the network device is configured to determine that the frame is destined for the second network device based on a source chip identifier of the frame.

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28. (Previously Presented) The network device of claim 24 wherein the network device does not rely on a hash result to determine the path.

29. (Cancelled).

30. (Previously Presented) The method of claim 1, wherein if the frame is destined for the second network device, the forwarding comprises:

determining the path relative to an alternate path, the alternate path based on a hash algorithm used to select a high-speed link of the plurality of links.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vivek Krishnan whose telephone number is (571) 270-5009. The examiner can normally be reached on Monday through Friday from 9:00 AM to 5:30 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivek Srivastava can be reached on (571) 272-7304. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2445

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/V. K./

Examiner, Art Unit 2433

/VIVEK SRIVASTAVA/

Supervisory Patent Examiner, Art Unit 2445